

## REMARKS

### The Invention

The invention is based at least in part on the finding that midkine (MK) and pleiotrophin (PTN) promote the proliferation and differentiation of hematopoietic stem cells and progenitor cells. In addition, the inventors observed that MK and PTN acted with one or more other hematopoietic growth factors (e.g., interleukin (IL)-3, IL-6, granulocyte-colony stimulating factor (G-CSF), granulocyte macrophage-colony-stimulating factor (GM-CSF), stem cell factor (SCF), or erythropoietin (EPO)) in promoting the above activity. The present claims are drawn to methods of promoting *ex vivo* expansion of hematopoietic stem cells or hematopoietic progenitor cells using compositions containing MK, with or without PTN, and with one or more of the other hematopoietic growth factors.

### Corrected filing receipt

Applicants note that a corrected filing receipt (as requested by Applicants on August 6, 2002) will be mailed by the U.S. Patent and Trademark Office (Office Action, page 2, lines 4-5).

### Status of the Claims

Claims 21-30 are pending and under consideration in this application. Claims 21-24, 27 and 28 stand rejected and claims 25, 26, and 29-30 are objected to. After entry of the amendments made herein, claims 21-24, 25-28, and 30 will be pending and under consideration in this application, claims 25 and 29 having been canceled without prejudice to their being presented in another application.

### Information Disclosure Statement (IDS)

The Examiner objects to the IDS filed on February 8, 2002, in that an English translation of the Bessho reference was not supplied with that IDS. Applicants enclose herewith as Exhibit A a copy of an IDS filed on June 24, 1999, in the parent application (U.S. Application Serial No. 09/214,569) of the instant application that contains a concise explanation of the reference.

Should the Examiner so wish, Applicants will provide the Examiner with a partial translation of the Bessho reference.

#### Amendments to the Specification

The Examiner objects to the title of the instant application on the grounds that it is allegedly not descriptive. Applicants are not sure whether the Examiner is referring to the title as it appears at the top of the application as filed on February 8, 2002, or as it was amended in the Preliminary Amendment filed on February 8, 2002 with the application. Nevertheless, in order to expedite prosecution of the instant application, Applicants have herein amended the title as suggested by the Examiner.

The Examiner objects to the brief descriptions of Figures 2 and 3 in that they do not refer to Figures 2A and 2B and Figures 3A and 3B. These brief descriptions have herein been appropriately amended.

Applicants have corrected English language translations (on page 14, line 9, and page 22, line 20, of the instant specification) of the Japanese term having the same meaning as "refractory" that was recited in the original Japanese language application. In that the correct term was used in the original Japanese language priority document, these corrections do not add new matter.

#### Objections to the claims

Claims 25, 26, and 29-30 are objected to for being dependent on rejected claims. Applicants respectfully submit that, for the reasons given below, the relevant rejected claims are allowable and thus that the objections are moot.

#### 35 U.S.C. § 112, first paragraph, rejection

Claims 21-24 and 27-28 stand rejected on the grounds that the specification allegedly does not enable any skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with the claims.

From the comments on page 3, line 11, to page 6, line 19, of the Office Action, Applicants understand the Examiner's position to be that, while the specification is enabling for a method of promoting *ex vivo* expansion of hematopoietic stem cells or progenitor cells that involves culturing the hematopoietic stem cells or progenitor cells with a composition containing (a) purified midkine (MK) protein, with or without pleiotrophin (PTN) protein, and (b) one or more other purified hematopoietic growth factors selected from the group consisting of interleukin-3 (IL-3), interleukin-6 (IL-6), granulocyte colony stimulating-factor (G-CSF), granulocyte-macrophage colony- stimulating factor (GM-CSF), stem cell factor (SCF), and erythropoietin (EPO), it is not enabling for a method of promoting *ex vivo* expansion of hematopoietic stem cells or progenitor cells that involves culturing the hematopoietic stem cells or progenitor cells with a composition containing (a) purified midkine (MK) protein, with or without pleiotrophin (PTN) protein, and (b) one or more other purified hematopoietic growth factors. While not agreeing with this position, in order to expedite prosecution of the instant application, Applicants have amended claims 21 and 22 to include the embodiments of claims 25 and 29 and have canceled claims 25 and 29.

Applicants respectfully submit that the rejection is rendered moot by the amendments to claims 21 and 22.

Applicant : Makoto Kikuchi et al.  
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CONCLUSION

In summary, for the reasons set forth above, Applicants maintain that the pending claims patentably define the invention. Applicants request that the Examiner reconsider the rejections as set forth in the Office Action, and permit the pending claims to pass to allowance.

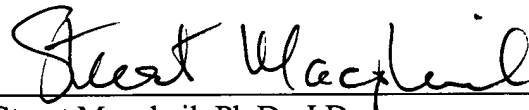
If the Examiner would like to discuss any of the issues raised in the Office Action, Applicants' undersigned representative can be reached at the telephone number listed below.

Please charge any fees or make any credits to Deposit Account No. 06-1050, referencing Attorney Docket No.14883-026002.

Respectfully submitted,

Date: \_\_\_\_\_

1/6/05



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